LBC-SPH4-1HB3-EIR

LINK BRIDGE™ HDBASET
3X TRANSMISSION SYSTEM

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BROADATA COMMUNICATIONS, INC.

SAFETY INSTRUCTIONS AND COMPLIANCE DECLARATIONS

PLEASE OBSERVE THE FOLLOWING SAFETY PRECAUTIONS

SURGE PROTECTION DEVICE RECOMMENDED

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

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1.0 PRODUCT DESCRIPTION

The LBC-SPH4-1HB3-EIR HDMI over HDMI and CAT 5e/6 Splitter can split and distribute a single HDMI input, 2-way IR control and LAN serving up to three CAT 5e/6 outputs and includes a simultaneous HDMI bypass output. It supports resolutions up to 1080p Full HD, 4Kx2K timing, 3D and multi-channel digital audio formats (such LBPCM 7.1Ch, Dolby TrueHD, Dolby Digital Plus and DTS-HD). The HDMI bypass output can be connected to an HDMI display or cascaded to another splitter. The three CAT 5e/6 outputs can be connected to the CAT 5e/6 to HDMI receivers to extend the operating distance up to 100 meters.

Additionally the LAN connectivity will allow a 100BaseT network to be served to smart TVs or game consoles. The PoH (Power over HDBaseT) function can power compatible receivers, providing greater flexibility in installations.

Features

- HDMI with 4K×2K resolution and 3D support, HDCP and DVI compliant
- Simultaneous HDMI and CAT5e/6/7 outputs
- Supports data rate from 300 Mbps up to 3 Gbps
- Supports a wide range of PC resolutions from VGA to WUXGA (RB) and HDTV resolutions up to 4K×2K (3840×2160@30 Hz and 4096×2160@24 Hz)
- Supports transmission of High Definition audio: LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio (32 kHz~192 kHz sample rate)
- Supports distances up to 100 meters over CAT5e/6/7 cables
- Supports Ethernet network rates up to 100Mbps
- Supports selection of Standard or TV EDID settings
- Supports PoH with compatible receiver units
- Supports control of devices via 2-way IR
- 3D signal display is dependent on the TV/Display's EDID settings

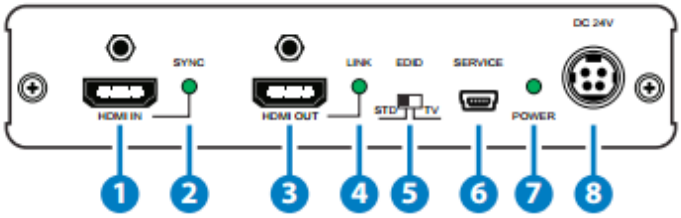
Note:
1. This system was tested with CAT6/23AWG cables, results may vary with cables of a different specification.
2. The PoH function is designed for powering compatible Receiver units only, non-PoH Receivers will need their own power supply. Receivers of another brand may not be compatible.
3. For playback of 4K×2K HDMI source signals, a 4K×2K capable display and High Speed HDMI cables are required.

Package Contents

- 1×4 HDMI over HDMI and CAT5e/6/7 Splitter
- 1×IR Receiver
- 1×IR Blaster
- 24V DC Power Adaptor
- Power Cord
- Operation Manual

2.0 OPERATION CONTROLS AND FUNCTIONS

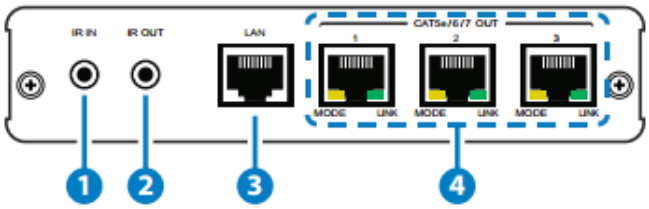
2.1 Front Panel



1. **HDMI IN**:
   Connect to HDMI equipped source equipment such as a DVD/ Blu-ray player or game console.
2. **SYNC LED**:
   This LED will illuminate when the HDMI input is connected to a HDMI source and receiving a signal.
3. **HDMI OUT**:
   Connect to a HDMI display for local monitoring of the HDMI signal or cascade to another Splitter.
4. **HDMI LINK LED**:
   This LED will illuminate when HDMI output is connected to TV or display monitor and receiving a signal.
5. **EDID STD/TV**:
   The default setting is TV, when in this mode, the unit will detect the EDID settings of the display device connected to the CAT 5e/6/7 Output 1. If it detects a 4K×2K capable EDID setting it will transmit the signal in that format to the output port. If no 4K×2K capable EDID is detected then the unit will detect the EDID settings and send out the signal that all outputs can accept. This device has a last memory function and will retain the EDID settings of the last device connected via the CAT5e/6/7 output port when it is not connected to a display after power cycling. Switch to the STD setting to use the unit's built-in EDID if there are display problems. In this mode, the video output will be set to 1080p@60Hz and the audio at LPCM 2CH Stereo..

6. **SERVICE**:
   Reserved for manufacturer's use only
7. **POWER LED**:
   The LED will illuminate when connected to an active power supply.
8. **DC 24V**:
   Connect the 24V DC power supply to the unit and plug the adaptor into an AC outlet.

2.2 Rear Panel



1. **IR IN**:
   Connect the supplied IR Receiver cable for IR signal reception. Ensure that the remote being used is within direct line-of-sight of the IR Extender.
2. **IR OUT**:
   Connect the supplied IR Blaster cable for IR signal transmission. Place the IR Blaster in direct line-of-sight of the equipment to be controlled.
3. **LAN**:
   Connect to an active network for LAN support. When any compatible LAN equipped receivers are connected, this allows the network access (including internet access if available) to be shared. Connect any Ethernet equipped device e.g. a Smart TV or game console to the LAN port of a receiver for that device to share the network/internet access.

Warning: DO NOT connect the LAN connection with any of the CAT5e/6/7 outputs, doing so may trigger a power shut down and may damage the device.

4. **CAT5e/6/7 OUT 1~3**:
   Connect to CAT5e/6/7 to HDMI Receivers (with or without PoH) with a single CAT5e/6/7 cable each to extend the HDMI signal up to 100m.
6. **IR Extender**:
   Connect to the supplied IR Receiver cables for IR signal reception. Ensure that remote being used is within the direct line-of-sight of the IR Extender.

MODE LED: This LED will illuminate when the power is connected.
LINK LED: This LED will illuminate when connected to a Receiver unit that is connected to a TV/monitor that is displaying the signal.

3.0 CONNECTOR PIN ASSIGNMENT

3.1 IR Pin Assignment

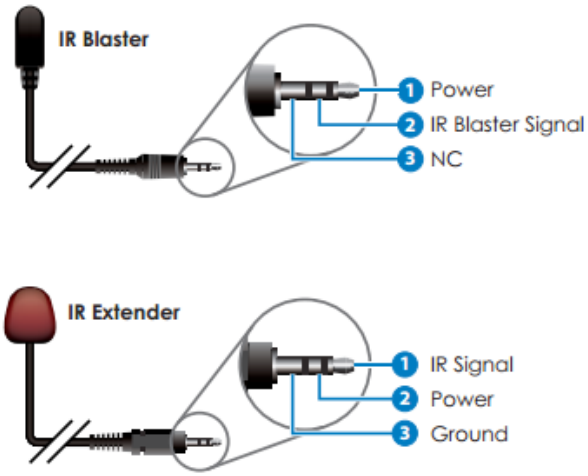


Figure 3-1
IR Blaster and IR Extender Pin Assignment

4.0 MAINTENANCE AND TROUBLESHOOTING

4.1 Maintenance

There is no operator maintenance other then keeping the units clean. However, observe the following light indicators to make sure that the unit is working properly:

4.2 Troubleshooting

If the LBC-SPH4-1HB3-EIR units do not operate properly after installation, check for possible cable breaks, loose connections, and incorrect cable connections. If problems persist that may be fiber related, contact BCI at 1-800-214-0222 for further assistance.

For electrical problems, perform the following troubleshooting procedures:

1. **If the POWER indicator is OFF, check for the following:**
   a. The line cord is plugged into the unit and your outlet has power.
2. **If the POWER indicator is ON, but the Link indicator is OFF, check for the following:**
   a. Make sure the appropriate cables are being used.
   b. Cable and cable connectors are not broken.
   c. For each unit, the transmit (TX) cable is connected to the other unit's receiver (RX).
3. **If the POWER indicator and Link indicator are ON, but the channels are not operating, then:**
   a. Check to see that the attached user equipment is turned on.
   b. Both ends of the link are connected to the corresponding equipment and to the same corresponding channel port.

c. Cable connections at both channels are securely fastened to each connector. Turn the power off, then back on to reset the link.

5.0 SPECIFICATIONS

Input Port	1×HDMI, 1×IR IN, 1×LAN, 1×USB (Service only)
Output Port	1×HDMI, 3×CAT5e/6/7, 1×IR OUT
CAT5e/6/7 Output Cable	Up to 100 Meters
HDMI Supported	480i~1080p@50/60Hz, 1080p@24Hz, 4K×2K
Supports Resolutions	(3840×2160@30Hz/4096×2160@ 24/25Hz) & VGA~WUXGA (RB)
IR Frequency	30~50 kHz
Dimensions	145mm, 5.7" (W)×199mm, 7.8" (D) ×30mm, 1.18" (H)
Chassis material	Metal
Box Color	Black
Operating Temperature	0 °C~40 °C / 32 °F~104 °F
Relative Humidity	20 ~ 90 % RH (non-condensing)
Power Supply	110 – 240v AC 50/60 Hz, 24v @ 2.7 A DC
Power Consumption	36W

6.0 SERVICE PROCEDURE

6.1 Replacement Policy

Standard products found defective on arrival (DOA) will be replaced, based on availability, within 24 to 48 hours anywhere in the U.S. Please call Customer Service at **800-214-0222** for information.

6.2 Return/Repair Service

The LBC-SPH4-1H3B-EIR System contains no user serviceable components. If you have a problem with your unit, please contact the Customer Service Department. To facilitate our return/ repair processing please contact Broadata Communications, Inc. to obtain a Return Material Authorization (RMA). Please include the following information:

- Product model number
- Serial Number
- Complete description of problem
- Hardware installation description

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e-mail: CustomerService@Broadatacom.com
Website: www.broadatacom.com

7.0 LIMITED WARRANTY

Broadata Communications, Inc. (BCI) warrants, for a period of one year from date of shipment, each product sold shall be free from defects in material and workmanship. BCI will correct, either by repair, or at BCI's election, by replacement, any said products that in our sole discretion prove to be defective and are returned to the manufacturing location within 30 days after such defect is ascertained. All warranties are limited to defects arising under normal use and do not include malfunctions or failure resulting from misuse, abuse, neglect, alterations, electrical power problems, usage not in accordance with product instructions, improper installation, or damage determined by BCI to have been caused by the Buyer or repair made by a third party. Limited warranties granted on products are to the initial customer end-user and are not transferable. OUR LIABILITY UNDER THIS WARRANTY SHALL IN ANY CASE BE LIMITED TO THE INVOICE VALUE OF THE PRODUCT SOLD AND BCI SHALL NOT BE LIABLE TO ANYONE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING FROM THE USE OF ITS PRODUCTS OR THE SALE THEREOF. We make NO WARRANTY AS TO THE MERCHANTABILITY OF ANY GOODS, OR THAT THEY ARE FIT FOR ANY PARTICULAR PURPOSE OR END APPLICATION NOR DO WE MAKE ANY WARRANTY, EXPRESSED OR IMPLIED OTHER THAN AS STATED ABOVE.

8.0 APPENDIX A: CAT-5E/6/7 CABLE SPECIFICATIONS

CABLE TYPE	RANGE	PIXEL CLOCK RATE	VIDEO DATA RATE	SUPPORTED VIDEO
CAT5e/6/7	100 m	≤225 MHz	≤5.3 Gbps (HD Video)	Up to 1080p, 60 Hz, 36 bits, 3D (data rates lower than 5.3 Gbps or below 225MHz TMDS clock)
	70 m	>225 MHz	> 5.3 Gbps (Ultra HD Video)	4Kx2K, 30Hz video formats

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